IN THE DRAWINGS

Please replace Drawing Sheet 4/11 and Drawing Sheet 5/11 with the attached Replacement Sheet 4/11 and Replacement Sheet 5/11 respectively.

The amendments to the sheets are described in the corresponding attached Annotated Marked-up Drawings.

REMARKS

This amendment is responsive to the office action dated November 1, 2004. Claims 1-9, 11-21 and 23-24 were pending in the application. No claims were allowed. All claims were rejected.

I. OBJECTIONS TO THE SPECIFICATION AND DRAWINGS

The Examiner stated that the present application denoted two items as item 35, namely a magnet and an optical sensor. Paragraph [0028] has been amended to make the magnet item 135. Corresponding changes to the drawings have also been made.

The Examiner further observed that two items were also identified as item 37, namely the manifold and the sear spring. Paragraph [0029] has been amended to make the manifold item 137. Corresponding changes to the drawings have also been made.

Formal drawings will be submitted upon notice of allowable subject matter.

II. REJECTIONS UNDER 35 U.S.C. § 102(b)

A. U.S. Patent No. 6,109,252 issued to Stevens

The Examiner rejected claims 1-4, 11-16, and 23 as being anticipated by Stevens.

Specifically, the Examiner stated that Stevens discloses:

> a paintball firing apparatus comprising a frame (item 27), a electronic grip (item 23), a movable trigger (item 90) connected to said frame, said trigger including an optical sensor (items 92, 94) interface for sensing the condition of the said trigger position (see for example, Column 3, lines 3-10), electrical output circuit (item 93) with plurality of signals connected to the said sensors with a first signal sensing the presence of a paintball within the breach (item 76) of the

> said firing apparatus, and a second signal the condition of the firing mechanism (item 90) . . . [. Also,] the reference discloses a prong on the rear face of the said trigger as shown in Figures 19, 20 . . . optical sensors (items 92, 94 and as disclosed in Column 3, lines 3-10) for operating and controlling the said electrical circuit (item93) [and] said trigger pivotally connected to the said frame as shown in Figure2 19-20.

The Applicant respectfully disagrees. The trigger 90 of the Stevens patent does not have a prong 34 as disclosed in Fig. 4A of the present application. Figs. 19 and 20 of the Stevens patent disclose a movable trigger 90 connected to the frame that has a rearwardly projecting contact surface for activating a micro switch 94. Moreover, the contact surface of the Stevens trigger 90 does not interrupt the passage of light between a light emitter and a light detector as claimed in the amended claims of the present application, but rather throws the armature of a micro switch.

It is important to note that the switches 92, 94 disclosed in the Stevens are micro switches that can be of the optical, electrical, mechanical, pneumatic, hydraulic or infra red type. A micro switch is a self-contained device that has its own armature to sense when the switch has been activated. This distinction is important because the invention of the present application incorporates the trigger 29 as the armature of the switch by including the novel prong 34, which is not disclosed in the Stevens patent at Figs. 19 or 20 or in Column 3, lines 3-10 of the specification. Furthermore, there is no contact between the trigger and the switch of the present invention, unlike the apparatus disclosed in Stevens where the trigger 90 must contact the micro switch 94 in order to activate the switch.

Therefore, it is believed that allowable subject matter exists in the present application in light of the amendments and arguments made herein, and withdrawal of the rejection is respectfully solicited.

B. U.S. Patent No. 6,171,190 issued to Thanasack

The Examiner rejected claims 1 and 12 as being anticipated by Thanasack.

Specifically, The Examiner stated that:

> The reference discloses a gun firing apparatus comprising a frame (item 14) and trigger (item 26) connected to a photo-sensor (item 24), the operating of the said trigger resulting a first trigger signal and second trigger signal to an internal circuit as disclosed in Column 5, lines 38-65, and a computer system as disclosed in items 12, 30 and Column 5, lines 50+

The Applicant respectfully disagrees. The light gun for a video game system as disclosed in the Thanasack patent does not disclose an optical sensor for sensing the movement of the trigger. First, a light gun does not fire projectiles (they do not even project light), and therefore has no need to sense whether a projectile is positioned properly before beginning the firing sequence. Moreover, the problems present in creating a light gun for a video game system are entirely different than those problems present in creating a paintball marker of the present invention. Also, the photosensor 24 disclosed in Thanasack is used to sense the light emanating from the screen of a television 16, and not the position of the trigger. Thanasack specifically discloses that the trigger is coupled to an internal switch (Column 5, lines 38-41), but makes no disclosure as to the type of switch or how it functions. The present invention, however, incorporated the trigger as the armature of the switch as described above.

Therefore, it is believed that allowable subject matter exists in the present application in light of the amendments and arguments made herein, and withdrawal of the rejection is respectfully solicited.

III. REJECTIONS UNDER 35 U.S.C. § 103(a)

The Examiner rejected Claims 1, 5-9, 12, 17-21, and 23-24 as being unpatentable over Surawski (U.S. Patent No. 4,793,075) in view of Stevens and Thanasack.

Specifically, the Examiner stated that:

> The primary reference discloses an electronic firing system that reads on the applicant's cited claims, comprising a frame (item 10), a hand grip (item 20), a trigger (item 14), movably connected to said frame and pivoted upon a pin (item 50), a trigger switch circuit (Column 4, lines 33+, Column 5, lines 1-25) causing a plurality of electrical signals to actuate a solenoid (item 114) and producing a rearward movement of an armature winding (item 114a), the reference discloses a sear (item 78) and a solenoid connected thereto (item 114), relating to claims 5-9, 17-20, the reference discloses a trigger mechanism encompassing the feature being claims in the form of adjustable stop by means of a trigger bar (item 49) providing for a plurality of stop positions (see Figure 3), a biasing magnet (item 80), a set screw (item 50) and a disclosed in Column 3, lines 7-63), and relating to claims 9, and 21, the reference discloses a metal construction by stating brazing manufacture (Column 2, lines59+).
>
> [Surawski] discloses the claimed invention except for citing that the trigger sensors are of the optical type and that the system uses a microprocessor to actuate a gas system to propel paintballs. The secondary references teach that it is well known in the firearm art to use optical type trigger sensors and microprocessors to actuate a gas system to propel paint-balls. It would have been obvious to one of ordinary skill in the art to have substituted the Surawski et al sensors with optical type sensors as the examiner takes Official Notice that Stevens teaches that these are

> recognized equivalents . . . and in addition the use of micro-processors to actuate gas propellant systems is taught by Thanasack . . . .

The Applicant respectfully disagrees. Thanasack does not teach the use of microprocessors to actuate gas propellant systems. As discussed above, Thanasack applies to processing light received by a light gun for a use with a video game system. Video game systems are presented with a completely different array of problems than those present in the paint-ball art, and therefore, it is a non-analogous art. It is important to note that light guns do not fire projectiles nor do they even emit light. Light guns measure light by sensing light through the barrel of the gun with a photosensor. The processor included in the invention of the Thanasack patent is for processing the received light by the photosensor and not for controlling the operation of a paintball marker. Therefore, Thanasack is completely irrelevant to the present invention.

As noted previously, Stevens does not disclose a trigger having a prong that breaks the sensing plane of an optical sensor. Also, Stevens does not disclose a trigger that does not contact the switch as disclosed in the present invention. Therefore, even if Stevens were combined with Surawski, not all the features and limitations of present invention would be present.

Therefore, it would not have been obvious to one skilled in the art to combine Surawski, Stevens and Thanasack to form the present invention of this application. There is no teaching or suggestion in these cited references to support such a combination.

In light of the amendments and arguments made above, the Applicant respectfully requests withdrawal of the rejection and allowance of the amended claims.

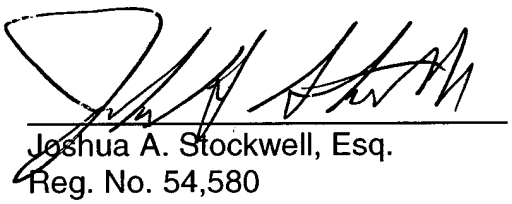
IV. CONCLUSION

Accordingly, claims 1-9, 11-21, and 23-24 are believed to have allowable subject matter as amended.

The Applicant respectfully requests that the rejections be withdrawn and the claimed subject matter allowed. Corresponding action is respectfully solicited

PTO is authorized to charge any additional fees incurred as a result of the filing hereof or credit any overpayment to our account #02-0900.

Respectfully submitted,



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